October 15, 2005

sel kes

Mr. Magdy Baiady California Regional Water Quality Control Board Los Angeles Region 320 West 4th Street, Suite 200 Los Angeles, California 90013

Subject:

Quarterly Groundwater Monitoring and Status Report for the Third Quarter 2005

Mobil Station 18LBF 19248 Victory Boulevard Reseda, California

CRWQCB Case No. 913350834A

Mr. Baiady:

At the request of ExxonMobil Oil Corporation (ExxonMobil), Environmental Resolutions, Inc. is submitting the Third Quarter 2005 ExxonMobil Quarterly Groundwater Monitoring and Status Report for the above-referenced site. The format utilized for the report consolidates groundwater sampling (where applicable), Title 23, Subchapter 16 reporting and consultant progress updates for ExxonMobil into one summary report.

Please call me at (949) 457-7999 if you have any guestions.

Sincerely,

Environmental Resolutions, Inc.

Patrick J. Toelkes/ Project Manager

P.G. 7155

CC:

Ms. Felicia Jones, ExxonMobil

QUARTERLY GROUNDWATER MONITORING AND STATUS REPORT SUMMARY SHEET THIRD QUARTER 2005

Mobil Station 18LBF, 19248 Victory Boulevard, Reseda, California ERI 3236

SITE INFORMATION:				··
Responsible Party / Contact:		ExxonMobil Oil Corporation / Ms. Felicia	Jones (310) 212-2	2904
Responsible Party Address:		3700 West 190th Street, TPT2-4, Torran		
Station / Site ID:		18LBF	,	-
Current Site Use:		Operating Mobil gasoline service station		·
Global ID:		T0603702234	······································	
Lead Regulatory Agency/Case#/Case Worker:		CRWQCB/ 913350834A/ Magdy Baiady	(213) 576-6699	·
Date of Most Recent Regulatory Letter:		December 29, 2004	(,	
Primary Consultant / Project Manager:		Environmental Resolutions, Inc. / Mr. Pat	rick J. Toelkes (94	49) 457-7999
Well Monitoring Contractor:		Environmental Resolutions, Inc.		10) 101 1000
Site Monitoring Frequency:		Quarterly		
Well(s) and/or Subsurface Water Within 2,000 ft.:		Los Angeles River (500 ft north)		
Number of Groundwater Wells On Site:		4		······································
Number of Groundwater Wells Off Site:		None		
Phase of Vadose Investigation:		Assessed		
Phase of Groundwater Investigation:		Monitoring and sampling/delineation		
Nature of Impact:		Gasoline		
SITE HYDROLOGY				
Number of Water Zones:		1	· · · · · · · · · · · · · · · · · · ·	
Depth to Groundwater Range (ft.)		15.74 - 16.46		
Potentiometric Surface Elevation Range (ft-MSL):		725.39 - 726.34		·
Qtrly Change in Avg. Groundwater Elevation (ft):		0.92 ft increase		
Flow Direction/Hydraulic Gradient (ft/ft):		Northeast / 0.02 ft/ft		
FIELD ACTIVITY (CURRENT QUARTER):			Wells w	vith LPH:
·			Well	Feet
Groundwater Monitoring Date:		07/13/05	None	N/A
Groundwater Wells Gauged:		4	110/10	- 14// \
Groundwater Wells Sampled:		4		***
Sampling Method:		Purgė	-	
Gallons of Groundwater Purged:		156		
Treatment Method / Disposal Facility:		Crosby & Overton		
Analysis:		TPHg by EPA Cal-LUFT Method; BTEX a 8260B	nd fuel oxygenate	s by EPA Method
GROUNDWATER CONDITIONS:	_			
No. of wells with Detectable Benzene:	2	Benzene Range (ug/l):		<0.50 - 99.0
No. of wells with Detectable TPHg:	4	TPHg Range (ug/l):		52.2 - 3870
No. of wells with Detectable MTBE:	4	MTBE Range (ug/l):		69.4 - 2050
No. of wells with Detectable TBA:	4	TBA Range (ug/l):		244 - 14,200
ADDITIONAL INFORMATION:		1		2 77 17,200

Quarterly groundwater monitoring began at the site in the third quarter 2003.

WORK PERFORMED THIS QUARTER:

Groundwater monitoring and sampling of 4 wells.

Installed 3 off-site wells and worked on encroachment permits with the City of Los Angeles for the installation of the fourth well in Sylvia Avenue.

QUARTERLY GROUNDWATER MONITORING AND STATUS REPORT SUMMARY SHEET THIRD QUARTER 2005

Mobil Station 18LBF, 19248 Victory Boulevard, Reseda, California ERI 3236

TREND ANALYSIS:

Groundwater elevations increased by an average of 0.92 feet since the second quarter 2005.

Dissolved phase benzene is localized to the vicinity of the former USTs with the maximum concentration detected in groundwater monitoring well MW04 at 99.0 micrograms per liter (µg/l).

Dissolved phase MTBE was detected in each of the monitoring wells. Well MW04 had the highest concentration of MTBE at 2,050 µg/l.

Dissolved phase TBA was detected in each of the monitoring wells. Groundwater monitoring well MW01 had the highest concentration of TBA at 14,200 µg/l.

ACTIVITIES PERFORMED THIS QUARTER:

Conducted quarterly groundwater monitoring and sampling.

Prepared and submitted quarterly groundwater monitoring report for second quarter 2005 to the CRWQCB.

ACTIVITIES PROPOSED NEXT QUARTER:

Conduct quarterly groundwater monitoring and sampling.

Prepare and submit the quarterly groundwater monitoring report for third quarter 2005 to the CRWQCB.

Conduct a dual-phase extraction feasibility test.

For any questions, please call Ms. Felicia Jones with ExxonMobil at (310) 212-2904 or Mr. Patrick J. Toelkes with ERI at (949) 457-7999.

Respectfully submitted,

Patrick J. Toelkes

P.G. 7155

ATTACHED:

- Site Location Map (Plate 1)
 - Site Vicinity Map (Plate 2)
- Groundwater Elevation Contour Map 07/13/05 (Plate 3)

Tack be

- Benzene Groundwater Isopleth Concentration Map 07/13/05 (Plate 4)
- MTBE Groundwater Isopleth Concentration Map 07/13/05 (Plate 5)
 - Groundwater Monitoring and Sampling Schedule and Well Construction Details (Table 1)
- Water Level Measurements and Groundwater Analyses (Table 2)
- Cumulative Water Level Measurements and Groundwater Analyses (Table 3)
 - Laboratory Report and Chain-of-Custody Record
- Groundwater Sampling Field Log
- ERI Groundwater Monitoring and Sampling Field Protocol
- Non-Hazardous Waste Manifest for Second Quarter 2005



FN 3236T0P0

Map Name: Canoga Park, CA Version: 1967

EXPLANATION



1/2-mile radius circle

APPROXIMATE SCALE



0.5

mile

SOURCE: Modified from a map provided by National Geographic's TOPO!

National Geographic's TO



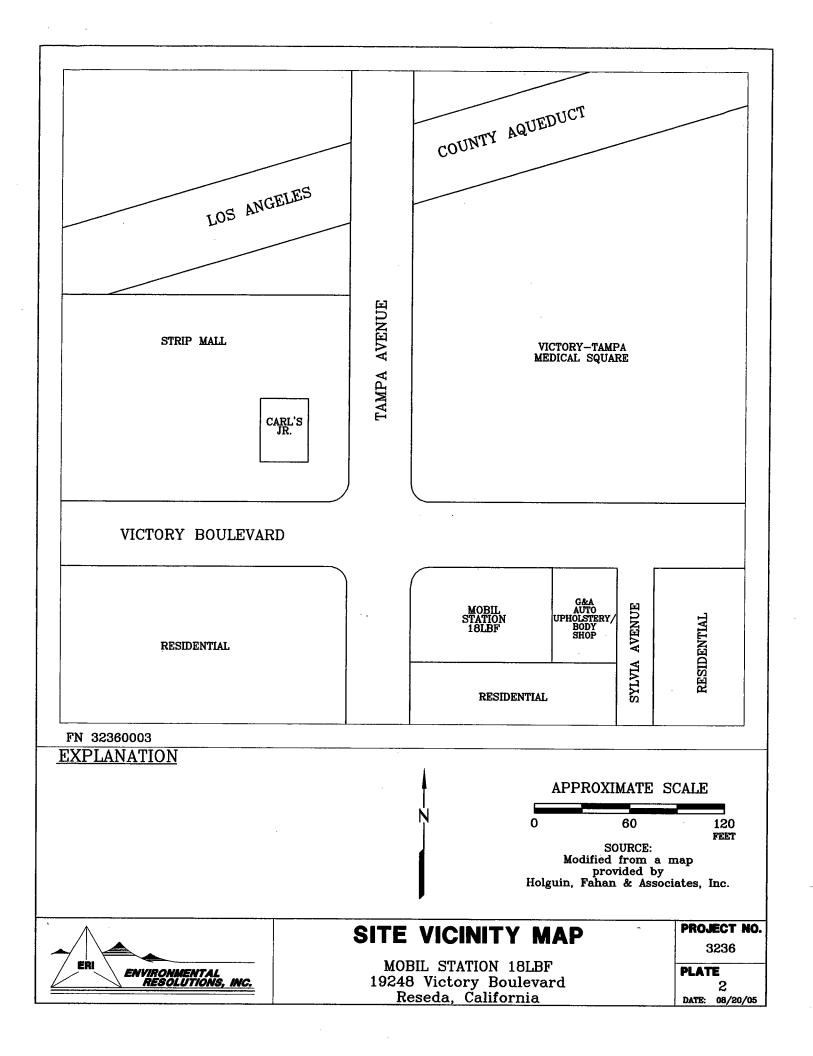
SITE LOCATION MAP

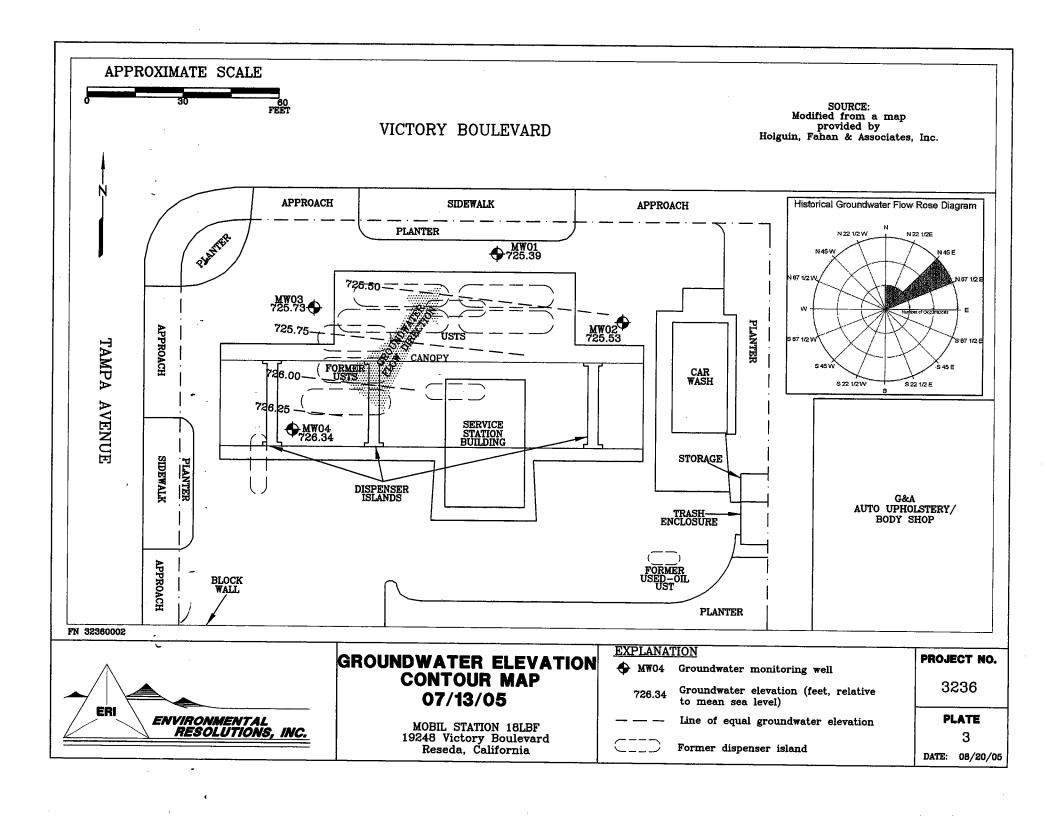
MOBIL STATION 18LBF 19248 Victory Boulevard Reseda, California PROJECT NO.

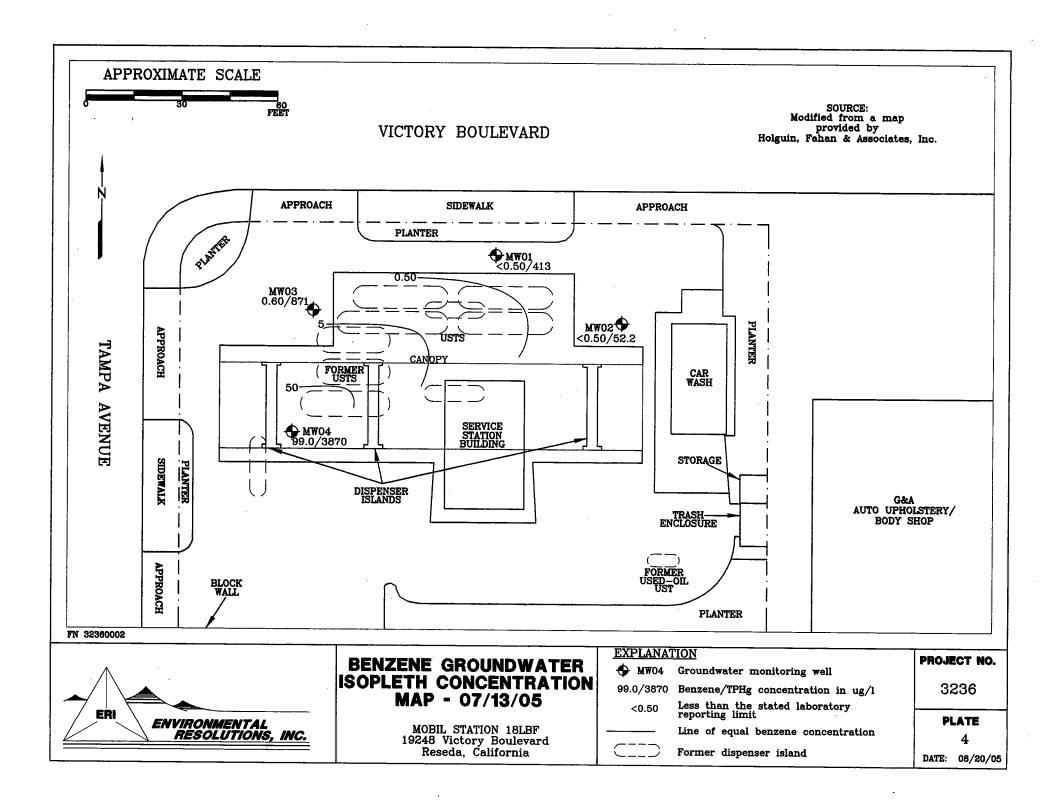
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PLATE

1







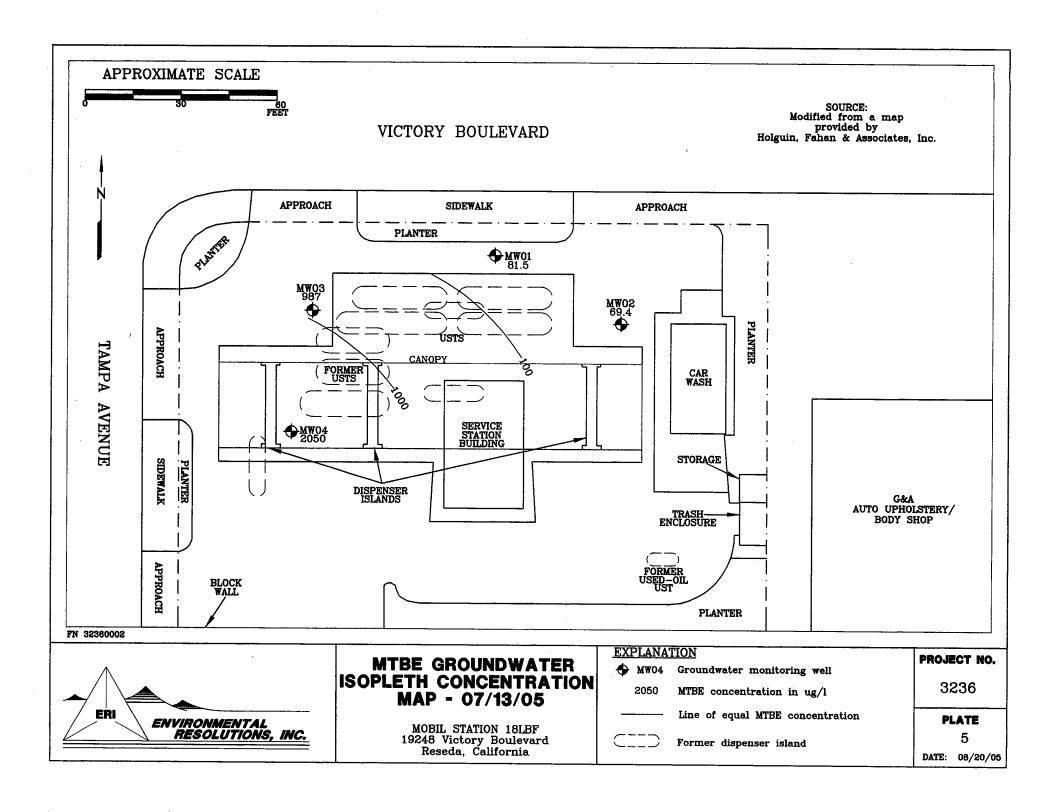


TABLE 1

GROUNDWATER MONITORING AND SAMPLING SCHEDULE AND WELL CONSTRUCTION DETAILS MOBIL STATION 18LBF

19248 VICTORY BOULEVARD RESEDA, CALIFORNIA

ERI 3236

CURRENT N	MONITORING WEL	L SAMPLING/ACTIVIT	TY SCHEDULE
WELL	WELL	FREQUENCY	FREQUENCY
NUMBER	ACTIVITY	OF GAUGING	OF SAMPLING
MW01	Р	quarterly	quarterly
MW02	Р	quarterly	quarterly
MW03	Р	quarterly	quarterly
MW04	Р	quarterly	quarterly

NP = no-purge P = purge

	WELL CO	NSTRUCTION INFORM	ATION	
WELL	INSTALL	CASING/BOREHOLE	SCREENED	TOTAL
ID	DATE	DIAMETER	INTERVAL (ft)	DEPTH (ft)
MW01	09/17-18/03	4"/10"	10-39.5	40
MW02	09/18/03	4"/10"	10-39.5	40
MW03	09/19/03	4"/10"	10-39.5	40
MW04	09/19/03	4"/10"	10-39.5	40

TOTAL DEPTH = depth of boring

TABLE 2

WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES

MOBIL STATION 18LBF

19248 VICTORY BOULEVARD

RESEDA, CALIFORNIA

ERI 3236

MW01	ELEV:	741.85							
DATE	GW DEPTH	GW ELEV.	В	Т	E	×	TPHg	MTBE	ТВА
07/13/05	16.46	725.39	<0.50	<0.50	<0.50	<0.50	413	81.5	14200
MW02	ELEV:	741.98							
DATE	GW DEPTH	GW ELEV.							
07/13/05	16.45	725.53	<0.50	<0.50	<0.50	<0.50	52.2	69.4	244
MW03	ELEV:	741.75							
DATE	GW DEPTH	GW ELEV.							İ
07/13/05	16.02	725.73	0.60	<0.50	1.50	0.60	871	987	1360
MW04	ELEV:	742.08							
DATE	GW DEPTH	GW ELEV.							
07/13/05	15.74	726.34	99.0	141	135	550	3870	2050	684

EXPLANATION:

Results reported in micrograms per liter (ug/l).

GW = groundwater

ELEV = elevation

B = benzene; T = toluene; E = ethylbenzene; X = total xylene isomers; TPHg = total petroleum hydrocarbons as gasoline

Methyl tertiary butyl ether (MTBE) analyzed by EPA Method 8260B.

TBA = tertiary butyl alcohol

<0.50 = not detected at or above the stated laboratory reporting limit

TABLE 3 CUMULATIVE WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES

MOBIL STATION 18LBF

19248 VICTORY BOULEVARD

RESEDA, CALIFORNIA

ERI 3236

Date	Well Elev	GW Depth	GW Elev	LPH	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Xylenes (ug/l)	TPHg (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	Ethanol (ug/l)	Methano (ug/l)
Field Point	MW01								***************************************				·			
9/30/2003	741.85	18.60	723.25	no	<0.50	0.30J	<0.50	<0.50	1120	103	<0.50	<0.50	<0.50	536		
11/5/2003	741.85	18.77	723.08	no	<0.50	<0.50	<0.50	<0.50	141	125	<0.50	0.30J	<0.50	1970		
2/4/2004	741.85	18.80	723.05	no	<0.50	<0.50	<0.50	<0.50	<50.0	581	<0.50	1.70J	<0.50	16300		
5/19/2004	741.85	18.51	723.34	no	<1.00	<1.00	<1.00	<1.00	2430	3480	<1.00	8.20	2.90	100000		
7/29/2004	741.85	19.07	722.78	no	<1.00	<1.00	<1.00	<1.00	537	355	<1.00	2.70	<1.00	34400		
10/18/2004	741.85	19.26	722.59	no	<1.00	<1.00	<1.00	<1.00	1470	635	<1.00	8.80	<1.00	39200		
1/26/2005	741.85	15.86	725.99	no	<1.00	<1.00	<1.00	<1.00	998	947	<1.00	8.00	<1.00	117000	<1000	20900
1/18/2005	741.85	15.56	726.29	no	<0.50	<0.50	<0.50	0.63	440	164	<1.00	1.20	<1.00	15600	<200	
7/13/2005	741.85	16.46	725.39	no	<0.50	<0.50	<0.50	<0.50	413	81.5	<1.00	<1.00	<1.00	14200		
Field Point	MW02						<u></u>									
9/30/2003	741.98	18.77	723.21	no	<0.50	0.30 J	<0.50	<0.50	98.1	39.9	<0.50	<0.50	<0.50	327		
11/5/2003	741.98	18.90	723.08	no	<0.50	<0.50	<0.50	<0.50	181	192	<0.50	<0.50	<0.50	916		
2/4/2004	741.98	18.87	723.11	no	<0.50	<0.50	<0.50	<0.50	1340	375	<0.50	<0.50	<0.50	1330	******	
5/19/2004	741.98	18.62	723.36	no	<1.00	<1.00	<1.00	<1.00	186	222	<1.00	<1.00	<1.00	872		
7/29/2004	741.98	19.20	722.78	no	<1.00	<1.00	<1.00	<1.00	1120	1330	<1.00	2.10	1.00	35700		
10/18/2004	741.98	19.43	722.55	no	<1.00	<1.00	<1.00	<1.00	881	725	<1.00	<1.00	1.40	9100		
/26/2005	741.98	15.78	726.20	no	1.00	2.20	<1.00	<1.00	478	806	<1.00	1.20	<1.00	8360	<1000	<10000
1/18/2005	741.98	15.46	726.52	no	<0.50	<0.50	0.60	0.71	92.4	91.8	<1.00	<1.00	<1.00	684	<200	
7/13/2005	741.98	16.45	725.53	no	<0.50	<0.50	<0.50	<0.50	52.2	69.4	<1.00	<1.00	<1.00	244		
Field Point	MW03	· · · · · · · · · · · · · · · · · · ·				<u> </u>										
3/30/2003	741.75	18.20	723.55	no	29.5	5.80	2.80	260	5910	5570	<0.50	0.60	10.2	2340		

TABLE 3 CUMULATIVE WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES

MOBIL STATION 18LBF

19248 VICTORY BOULEVARD

RESEDA, CALIFORNIA

ERI 3236

Date	Well Elev	GW Depth	GW Elev	LPH	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Xylenes (ug/l)	TPHg (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	Ethanol (ug/l)	Methand (ug/l)
11/5/2003	741.75	18.38	723.37	no	1.00	<0.50	0.30J	2.00	339	449	<0.50	<0.50	0.50	165		
2/4/2004	741.75	18.42	723.33	no	1.40	<0.50	<0.50	<0.50	3590	8650	<0.50	0.30J	7.10	971		
5/19/2004	741.75	18.11	723.64	no	15.5	<1.00	48.2	1.50	12900	23400	<1.00	<1.00	33.0	14400		
7/29/2004	741.75	18.63	723.12	no	<1.00	2.20	2.50	8.80	3820	4660	<1.00	<1.00	6.40	838		
10/18/2004	741.75	18.83	722.92	no	1.60	<1.00	4.70	<1.00	2530	2110	<1.00	<1.00	4.90	810		
1/26/2005	741.75	15.42	726.33	no	1.10	1.50	<1.00	<1.00	285	399	<1.00	<1.00	<1.00	113	<1000	<10000
4/18/2005	741.75	15.17	726.58	no	1.80	<0.50	6.30	5.50	834	1180	<1.00	<1.00	2.30	1350	<200	
7/13/2005	741.75	16.02	725.73	no	0.60	<0.50	1.50	0.60	871	987	<1.00	<1.00	2.50	1360		
Field Point	MW04							<u> </u>								
9/30/2003	742.08	18.06	724.02	no	44.0	58.0	62.0	1310	8380	406	<10.0	<10.0	<10.0	78.0J		
11/5/2003	742.08	18.31	723.77	no	32.8	47.6	22.6	366	2140	838	<0.50	<0.50	0.80	103		
2/4/2004	742.08	18.36	723.72	no	78.7	37.1	85.8	246	1760	1520	<0.50	0.30J	3.80	402		
5/19/2004	742.08	17.97	724.11	no	1780	2030	2020	7220	71800	70000	<50.0	<50.0	65.0	8300		
7/29/2004	742.08	18.57	723.51	no	109	150	143	410	4870	2580	<1.00	<1.00	3.00	340		
10/18/2004	742.08	18.80	723.28	no	67.0	123	67.8	325	3190	1430	<1.00	<1.00	2.50	623		
1/26/2005	742.08	15.12	726.96	no	138	222	175	707	5020	2920	<1.00	<1.00	3.90	231	<1000	<10000
4/18/2005	742.08	14.79	727.29	no	165	300	200	1080	6180	3500	<1.00	<1.00	3.30	981	<200	•
7/13/2005	742.08	15.74	726.34	no	99.0	141	135	550	3870	2050	<1.00	<1.00	<1.00	684		
Field Point	TRIP BLANK															
9/30/2003				no	<0.50	<0.50	<0.50	<0.50	<50.0	<0.50	<0.50	<0.50	<0.50	<10.0		
11/5/2003	•			no	<0.50	<0.50	<0.50	<0.50	<50.0	<0.50	<0.50	<0.50	<0.50	<10.0		•
2/4/2004				no	<0.50	0.30J	<0.50	<0.50	<50.0	<0.50	<0.50	<0.50	<0.50	<10.0		

TABLE 3 CUMULATIVE WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES

MOBIL STATION 18LBF

19248 VICTORY BOULEVARD

RESEDA, CALIFORNIA

ERI 3236

Date	Well Elev	GW Depth	GW Elev	LPH	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Xylenes (ug/l)	TPHg (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	Ethanol (ug/l)	Methanol (ug/l)
5/19/2004				no	<1.00	<1.00	<1.00	<1.00	<50.0	<2.00	<1.00	<1.00	<1.00	<10.0		
7/29/2004				no	<1.00	<1.00	<1.00	<1.00	<50.0	<2.00	<1.00	<1.00	<1.00	<10.0		
10/18/2004				no	<1.00	<1.00	<1.00	<1.00	<50.0	<2.00	<1.00	<1.00	<1.00	<10.0		
1/26/2005				no	<1.00	<1.00	<1.00	<1.00	<50.0	<2.00	<1.00	<1.00	1.30	<10.0	<1000	<10000
4/18/2005				no	<0.50	<0.50	<0.50	0.75	<50.0	<1.00	<1.00	<1.00	<1.00	<10.0		
7/13/2005				no	<0.50	<0.50	<0.50	<0.50	<50.0	<1.00	<1.00	<1.00	<1.00	<10.0		

TABLE 3

CUMULATIVE WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES

MOBIL STATION 18LBF 19248 VICTORY BOULEVARD RESEDA, CALIFORNIA ERI 3236

Explanation:
ELEV = elevation
EPA = Environmental Protection Agency
GW = groundwater
DIPE = di-isopropyl ether
ETBE = ethyl tertiary butyl ether
TAME = tertiary amyl methyl ether
TBA = tertiary butyl alcohol
TPHg = total petroleum hydrocarbons as gasoline
MTBE = methyl tertiary butyl ether
MTBE analyzed by EPA Method 82620B.
LPH = liquid phase hydrocarbons (thickness measured in feet)
<10000 = not detected at or above stated laboratory reporting limit
ug/l = micrograms per liter



8/12/05

ENVIRONMENTAL RESOLUTIONS, INC 10229
Pat Toelkes
20372 NORTH SEA CIRCLE
LAKE FOREST, CA 92630

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: EXXONMOBIL 18-LBF

Project Number: ERI 3236 13.

Laboratory Project Number: 422938.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

		Page 1
Sample Identification	Lab Number	Collection Date
W-16-MW01	05-A101697	7/13/05
W-16-MW02	05-A101698	7/13/05
W-16-MW03	05-A101699	7/13/05
W-15-MW04	05-A101700	7/13/05
TRIP BLANKS	05-A101701	7/13/05

Changed the sample ID's.



Sample Identification

Lab Number

Collection Date

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory. This is a re-issued report.

Llaw adage

Report Approved By

Report Date: 8/12/05
Revised Report Date

Johnny A. Mitchell, Laboratory Director Michael H. Dunn, M.S., Technical Director Pamela A. Langford, Senior Project Manager Eric S. Smith, QA/QC Director Gail A. Lage, Senior Project Manager Glenn L. Norton, Technical Services Kelly S. Comstock, Technical Services Roxanne L. Connor, Senior Project Manage

Laboratory Certification Number: 01168CA

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800-765-0980 • 615-726-3404 FAX

ANALYTICAL REPORT

ENVIRONMENTAL RESOLUTIONS, INC 10229

Pat Toelkes

20372 NORTH SEA CIRCLE LAKE FOREST, CA 92630

Project: ERI 3236 13

Project Name: EXXONMOBIL 18-LBF

Sampler: JORGE GONZALEZ

Purchase Order: 4505826166

Lab Number: 05-A101697 Sample ID: W-16-MW01 Sample Type: Water Site ID: 18-LBF

Date Collected: 7/13/05 Time Collected: 8:34 Date Received: 7/15/05 Time Received: 7:55

Parameter	Result 1	Flag Units	Limit of Quantitation	Limit of Detection		Date	Time	Method	Analyst	Batch
**Volatile Organics										
**Ethyl-t-butylether	<1.00	ug/l	1.00	0.27	1.	7/16/05	22:54	8260B	I. Ahmed	7412
**tert-amyl methyl ether	<1.00	ug/L	1.00	0.30	1.	7/16/05	22:54	8260B	I. Ahmed	7412
**Tertiary butyl alcohol	14200	ug/l	500.	214.	50.0	7/17/05	16:45	8260B	I. Ahmed	7419
**Benzene	<0.50	ug/l	0.50	0.25	1.	7/16/05	22:54	8260B	I. Ahmed	741
**Ethylbenzene	<0.50	ug/l	0.50	0.19	1.	7/16/05	22:54	8260B	I. Ahmed	7412
**Toluene	<0.50	ug/l	0.50	0.17	1.	7/16/05	22:54	8260B	I. Ahmed	741.
**Xylenes (Total)	<0.50	ug/l	0.50	0.33	1.	7/16/05	22:54	8260B	I. Ahmed	7432
**Methyl-t-butyl ether	81.5	ug/l	1.00	0.23	1.0	7/16/05	22:54	8260B	I. Ahmed	7417.
**Diisopropyl ether	<1.00	ug/l	1.00	0.18	1.	7/16/05	22:54	8260/SA05-77	I. Ahmed	7412
**TPH-GC										
**TPH (Gasoline Range)	413.	ug/l	50.0	33.0	1.0	7/16/05	16:49	CA-LUFT	Chakrabort	6012

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	94.	63 134.
VOA Surr 1,2-DCA-d4	108.	70 130.
VOA Surr Toluene-d8	102.	78 121.
VOA Surr, 4-BFB	109.	78 126.
VOA Surr, DBFM	107.	79 122.



ANALYTICAL REPORT

Laboratory Number: 05-A101697

Sample ID: W-16-MW01

Page 2

LABORATORY COMMENTS:

- ND = Not detected at the limit of Quantitation.
- U = Analyte analyzed for but not detected.
- # = Recovery outside Laboratory historical or method prescribed limits.
- J = All results evaluated to the Limit of Detection for reporting. Values below the Limit of Quantitation but above the Limit of Detection are qualified with J as estimated.
- B = Analyte was detected in the method blank.
- E = Estimated Value above the calibration limit of the instrument.



ANALYTICAL REPORT

ENVIRONMENTAL RESOLUTIONS, INC 10229

Pat Toelkes

**Methyl-t-butyl ether

**TPH (Gasoline Range)

**Diisopropyl ether

**TPH-GC

20372 NORTH SEA CIRCLE LAKE FOREST, CA 92630

Project: ERI 3236 13

Project Name: EXXONMOBIL 18-LBF

69.4

<1.00

52.2

Sampler: JORGE GONZALEZ

Purchase Order: 4505826166

Lab Number: 05-A101698 Sample ID: W-16-MW02 Sample Type: Water Site ID: 18-LBF

Date Collected: 7/13/05 Time Collected: 8:46 Date Received: 7/15/05 Time Received: 7:55

7/16/05 23:16 8260B

7/16/05 17:04 CA-LUFT

7/16/05 23:16 8260/SA05-77 I. Ahmed

I. Ahmed

Chakrabort 6012

7412

741..

			Limit of	Limit of	Dilution					
Parameter	Result Fla	g Units	Quantitation	Detection	Factor	Date	Time	Method	Analyst	Batch
**Volatile Organics										
**Ethyl-t-butylether	<1.00	ug/l	1.00	0.27	1.	7/16/05	23:16	8260B	I. Ahmed	7412
**tert-amyl methyl ether	<1.00	ug/L	1.00	0.30	1.	7/16/05	23:16	8260B	I. Ahmed	741
**Tertiary butyl alcohol	244.	ug/l	10.0	4.28	1.0	7/17/05	11:07	8260B	I. Ahmed	7415
**Benzene	<0.50	ug/l	0.50	0.25	1.	7/16/05	23:16	8260B	I. Ahmed	7417
**Ethylbenzene	<0.50	ug/l	0.50	0.19	1.	7/16/05	23:16	8260B	I. Ahmed	7417
**Toluene	<0.50	ug/l	0.50	0.17	1.	7/16/05	23:16	8260B	I. Ahmed	7411
**Xylenes (Total)	<0.50	ug/l	0.50	0.33	1.	7/16/05	23:16	8260B	I. Ahmed	7411

1.00

1.00

50.0

ug/l

ug/l

ug/l

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	115.	63 134.
VOA Surr 1,2-DCA-d4	107.	70 130.
VOA Surr Toluene-d8	102.	78 121.
VOA Surr, 4-BFB	107.	78 126.
VOA Surr, DBFM	110.	79 122.

0.23

0.18

33.0

1.0

1.



ANALYTICAL REPORT

Laboratory Number: 05-A101698 Sample ID: W-16-MW02

Page 2

LABORATORY COMMENTS:

- ND = Not detected at the limit of Quantitation.
- U = Analyte analyzed for but not detected.
- # = Recovery outside Laboratory historical or method prescribed limits.
- J = All results evaluated to the Limit of Detection for reporting. Values below the Limit of Quantitation but above the Limit of Detection are qualified with J as estimated.
- B = Analyte was detected in the method blank.
- ${\tt E}$ = Estimated Value above the calibration limit of the instrument.



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ANALYTICAL REPORT

ENVIRONMENTAL RESOLUTIONS, INC 10229

Pat Toelkes

20372 NORTH SEA CIRCLE LAKE FOREST, CA 92630

Project: ERI 3236 13

Project Name: EXXONMOBIL 18-LBF

Sampler: JORGE GONZALEZ

Lab Number: 05-A101699 Sample ID: W-16-MW03 Sample Type: Water

Site ID: 18-LBF

Date Collected: 7/13/05 Time Collected: 9:46

Date Received: 7/15/05
Time Received: 7:55

Purchase Order: 4505826166

			Limit of	Limit of	Dilution					: :
Parameter	Result	Flag Units	Quantitation	Detection	Factor	Date	Time	Method	Analyst	Batch '
										
**Volatile Organics										
**Ethyl-t-butylether	<1.00	ug,	1.00	0.27	1.	7/16/05	23:38	8260B	I. Ahmed	7412
**tert-amyl methyl ether	2.50	ug,	L 1.00	0.30	1.0	7/16/05	23:38	8260B	I. Ahmed	7412
**Tertiary butyl alcohol	1360	ug,	10.0	4.28	1.0	7/16/05	23:38	8260B	I. Ahmed	7412
**Benzene	0.60	ug,	0.50	0.25	1.0	7/16/05	23:38	8260B	I. Ahmed	7412
**Ethylbenzene	1.50	ug,	0.50	0.19	1.0	7/16/05	23:38	8260B	I. Ahmed	7417
**Toluene	<0.50	ug,	0.50	0.17	1.	7/16/05	23:38	8260B	I. Ahmed	741:
**Xylenes (Total)	0.60	ug,	0.50	0.33	1.0	7/16/05	23:38	8260B	I. Ahmed	7412
**Methyl-t-butyl ether	987.	ug,	10.0	2.30	10.0	7/17/05	17:07	8260B	I. Ahmed	7 411
**Diisopropyl ether	<1.00	ug,	1.00	0.18	1.	7/16/05	23:38	8260/SA05-77	I. Ahmed	742~
**TPH-GC										
**TPH (Gasoline Range)	871.	ug,	50.0	33.0	1.0	7/16/05	17:19	CA-LUFT	Chakrabor	t 6(12
Surrogate			% Recovery	Т	arget Ran	ge				

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	92.	63 134.
VOA Surr 1,2-DCA-d4	104.	70 130.
VOA Surr Toluene-d8	103.	78 121.
VOA Surr, 4-BFB	108.	78 126.
VOA Surr. DBFM	108.	79 122.



ANALYTICAL REPORT

Laboratory Number: 05-A101699

Sample ID: W-16-MW03

Page 2

LABORATORY COMMENTS:

- ND = Not detected at the limit of Quantitation.
- U = Analyte analyzed for but not detected.
- # = Recovery outside Laboratory historical or method prescribed limits.
- J = All results evaluated to the Limit of Detection for reporting. Values below the Limit of Quantitation but above the Limit of Detection are qualified with J as estimated.
- B = Analyte was detected in the method blank.
- E = Estimated Value above the calibration limit of the instrument.



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ANALYTICAL REPORT

ENVIRONMENTAL RESOLUTIONS, INC 10229

Pat Toelkes

20372 NORTH SEA CIRCLE LAKE FOREST, CA 92630

Project: ERI 3236 13

Project Name: EXXONMOBIL 18-LBF

Sampler: JORGE GONZALEZ

Lab Number: 05-A101700 Sample ID: W-15-MW04 Sample Type: Water Site ID: 18-LBF

Date Collected: 7/13/05 Time Collected: 9:56 Date Received: 7/15/05 Time Received: 7:55

Purchase Order: 4505826166

ug/lug/lug/lug/lug/lug/lug/lug/l	1.00 1.00 1.00 0.50 0.50	0.27 0.30 4.28 0.25 0.19	1. 1. 1.0 1.0	7/16/05 7/16/05 7/16/05 7/16/05 7/16/05 7/16/05	20:20 20:20 20:20 20:20	8260B 8260B 8260B 8260B	I. Ahmed I. Ahmed I. Ahmed I. Ahmed	7412 7412
ug/L ug/l ug/l	1.00 10.0 0.50 0.50	0.30 4.28 0.25	1. 1.0 1.0	7/16/05 7/16/05 7/16/05	20:20 20:20 20:20	8260B 8260B 8260B	I. Ahmed I. Ahmed I. Ahmed	7412
ug/L ug/l ug/l	1.00 10.0 0.50 0.50	0.30 4.28 0.25	1. 1.0 1.0	7/16/05 7/16/05 7/16/05	20:20 20:20 20:20	8260B 8260B 8260B	I. Ahmed I. Ahmed I. Ahmed	7412 7412
ug/L ug/l ug/l	1.00 10.0 0.50 0.50	0.30 4.28 0.25	1. 1.0 1.0	7/16/05 7/16/05 7/16/05	20:20 20:20 20:20	8260B 8260B 8260B	I. Ahmed I. Ahmed I. Ahmed	7412 7412
ug/l ug/l ug/l	10.0 0.50 0.50	4.28 0.25	1.0	7/16/05 7/16/05	20:20 20:20	8260B 8260B	I. Ahmed I. Ahmed	7412 7412 7412
ug/l	0.50 0.50	0.25	1.0	7/16/05	20:20	8260B	I. Ahmed	
ug/l	0.50							7412
<u>.</u>		0.19	1.0	7/16/05				
ug/l	0 50				20:20	8260B	I. Ahmed	7412
	0.50	0.17	1.0	7/16/05	20:20	8260B	I. Ahmed	7412
ug/l	2.50	1.65	5.0	7/17/05	14:11	8260B	I. Ahmed	7419
ug/l	50.0	11.5	50.0	7/17/05	14:33	8260B	I. Ahmed	1545
ug/l	1.00	0.18	1.	7/16/05	20:20	8260/SA05-77	I. Ahmed	741
ug/l	500.	330.	10.0	7/19/05	15:22	CA-LUFT	Chakrabort	8 5 3
		J.	J.	5				

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	77.	63 134.
VOA Surr 1,2-DCA-d4	107.	70 130.
VOA Surr Toluene-d8	100.	78 121.
VOA Surr, 4-BFB	108.	78 126.
VOA Surr, DBFM	110.	79 122.



ANALYTICAL REPORT

Laboratory Number: 05-A101700 Sample ID: W-15-MW04

Page 2

LABORATORY COMMENTS:

- ND = Not detected at the limit of Quantitation.
- U = Analyte analyzed for but not detected.
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- B = Analyte was detected in the method blank.
- ${\tt E}$ = Estimated Value above the calibration limit of the instrument.



ANALYTICAL REPORT

ENVIRONMENTAL RESOLUTIONS, INC 10229

Pat Toelkes

20372 NORTH SEA CIRCLE LAKE FOREST, CA 92630

Project: ERI 3236 13

Project Name: EXXONMOBIL 18-LBF

Sampler: JORGE GONZALEZ

Lab Number: 05-A101701 Sample ID: TRIP BLANKS Sample Type: Water

Sample Type: wate Site ID: 18-LBF

Date Collected: 7/13/05

Time Collected:

Date Received: 7/15/05

Time Received: 7:55

Purchase Order: 4505826166

Parameter	Result Fl	ag Units	Limit of Quantitation	Limit of Detection		Date	Time	Method	Analyst	Batch
**Volatile Organics			٠							
**Ethyl-t-butylether	<1.00	ug/l	1.00	0.27	1.	7/16/05	19:58	8260B	I. Ahmed	7412
**tert-amyl methyl ether	<1.00	ug/L	1.00	0.30	1.	7/16/05	19:58	8260B	I. Ahmed	741:
**Tertiary butyl alcohol	<10.0	ug/l	10.0	4.28	1.	7/16/05	19:58	8260B	I. Ahmed	7412
**Benzene	<0.50	ug/l	0.50	0.25	1.	7/16/05	19:58	8260B	I. Ahmed	7410
**Ethylbenzene	<0.50	ug/l	0.50	0.19	1.	7/16/05	19:58	8260B	I. Ahmed	7412
**Toluene	<0.50	ug/l	0.50	0.17	1.	7/16/05	19:58	8260B	I. Ahmed	7412
**Xylenes (Total)	<0.50	ug/l	0.50	0.33	1.	7/16/05	19:58	8260B	I. Ahmed	7412
**Methyl-t-butyl ether	<1.00	ug/l	1.00	0.23	1.	7/16/05	19:58	8260B	I. Ahmed	7412
**Diisopropyl ether	<1.00	ug/l	1.00	0.18	1.	7/16/05	19:58	8260/SA05-77	I. Ahmed	7417
**TPH-GC										
**TPH (Gasoline Range)	<50.0	ug/l	50.0	33.0	1.	7/16/05	20:15	CA-LUFT	Chakrabort	60% T

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	91.	63 134.
VOA Surr 1,2-DCA-d4	107.	70 130.
VOA Surr Toluene-d8	103.	78 121.
VOA Surr, 4-BFB	111.	78 126.
VOA Surr DREM	105.	79 122.



ANALYTICAL REPORT

Laboratory Number: 05-A101701 Sample ID: TRIP BLANKS

Page 2

LABORATORY COMMENTS:

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PROJECT QUALITY CONTROL DATA Project Number: ERI 3236 13

Page: 1

Matrix Spike Recovery

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Samp
UST ANALYSIS								
TPH (Gasoline Range)	mg/l	19.6	68.0	50.0	97	43 150.	6013	05-A1011
TPH (Gasoline Range)	mg/l	19.6	61.2	50.0	83	43 150.	6013	M:05A1017
BTEX/GRO Surr., a,a,a-TFT	% Recovery				92	63 134.	6013	
BTEX/GRO Surr., a,a,a-TFT	% Recovery				119	63 134.	6013	
	Matrix Spi	ke Recovery						
Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Some
VOA PARAMETERS								
Benzene	mg/l	0.0990	0.148	0.0500	98	62 143.	7412	101700
Benzene	mg/l	0.0990	0.135	0.0500	72	62 143.	7412	M:101700
Toluene	mg/l	0.141	0.188	0.0500	94	63 141.	7412	101700
Toluene	mg/l	0.141	0.164	0.0500	46#	63 141.	7412	M:101700
VOA Surr 1,2-DCA-d4	% Rec				103	70 130.	7412	
VOA Surr 1,2-DCA-d4	% Rec				105	70 130.	7412	
VOA Surr 1,2-DCA-d4	% Rec				110	70 130.	7419	
VOA Surr 1,2-DCA-d4	% Rec				112	70 130.	7419	44
VOA Surr Toluene-d8	% Rec				106	78 121.	7412	
VOA Surr Toluene-d8	% Rec				104	78 121.	7412	
VOA Surr Toluene-d8	% Rec				105	78 121.	7419	
VOA Surr Toluene-d8	% Rec				99	78 121.	7419	
VOA Surr, 4-BFB	% Rec				103	78 126.	7412	
VOA Surr, 4-BFB	% Rec				108	78 126.	7412	4 87 Km. 1
VOA Surr, 4-BFB	% Rec				111	78 126.	7419	
VOA Surr, 4-BFB	% Rec				106	78 126.	7419	
VOA Surr, DBFM	% Rec				107	79. ~ 122.	7412	
VOA Surr, DBFM	% Rec				110	79 122.	7412	
VOA Surr, DBFM	% Rec				111	79 122.	7419	
VOA Surr, DBFM	% Rec				111	79 122.	7419	



PROJECT QUALITY CONTROL DATA Project Number: ERI 3236 13

Page: 2

Matrix Spike Duplicate

Analyte	units		Duplicate			Q.C. Batch
UST PARAMETERS						
TPH (Gasoline Range) BTEX/GRO Surr., a,a,a-TFT	-		61.2 119.	10.53	27.	6013 6013
	Matrix Spike D	uplicate				
Analyte	units	_	Duplicate			Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.148	0.135	9.19	27.	7412
Toluene	mg/l	0.188	0.164	13.64	34.	7412
VOA Surr 1,2-DCA-d4	% Rec		105.			7412
VOA Surr 1,2-DCA-d4	% Rec		112.			7419
VOA Surr Toluene-d8	% Rec		104.			7412
VOA Surr Toluene-d8	% Rec		99.			7419
VOA Surr, 4-BFB	% Rec		108.			7412
VOA Surr, 4-BFB	% Rec		106.			7419
VOA Surr, DBFM	% Rec		110.			7412
VOA Surr, DBFM	% Rec		111.			7419

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
UST PARAMETERS						
TPH (Gasoline Range)	mg/l	1.00	1.16	116	64 - 130	6012
TPH (Gasoline Range)	mg/l	1.00	1.03	103	64 - 130	6012
TPH (Gasoline Range)	mg/l	1.00	1.08	108	64 - 130	6013
TPH (Gasoline Range)	mg/l	1.00	0.984	98	64 - 130	6013
TPH (Gasoline Range)	mg/l	1.00	0.938	94	64 - 130	8646
TPH (Gasoline Range)	mg/l	1.00	1.03	103	64 - 130	8646



PROJECT QUALITY CONTROL DATA Project Number: ERI 3236 13

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BTEX/GRO Surr.,	a,a,a-TFT	% Recovery	95	63 - 134	6012
BTEX/GRO Surr.,	a,a,a-TFT	% Recovery	118	63 - 134	6012
BTEX/GRO Surr.,	a,a,a-TFT	% Recovery	92	63 - 134	6013
BTEX/GRO Surr.,	a,a,a-TFT	% Recovery	118	63 - 134	6013
BTEX/GRO Surr.,	a,a,a-TFT	% Recovery	116	63 - 134	8646
BTEX/GRO Surr.,	a,a,a-TFT	% Recovery	78	63 - 134	8646

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						
Ethyl-t-butylether	mg/l	0.0500	0.0594	119	67 - 140	7412
tert-amyl methyl ether	mg/L	0.0500	0.0568	114	68 - 134	7412
Tertiary butyl alcohol	mg/l	0.500	0.573	115	28 - 182	7412
Tertiary butyl alcohol	mg/l	0.500	0.569	114	28 - 182	7419
Benzene	mg/l	0.0500	0.0514	103	78 - 123	7412
Ethylbenzene	mg/l	0.0500	0.0522	104	80 - 124	7412
Toluene	mg/l	0.0500	0.0485	97	77 - 124	7412
Xylenes (Total)	mg/l	0.150	0.157	105	81 - 124	7412
Xylenes (Total)	mg/l	0.150	0.161	107	81 - 124	7419
Methyl-t-butyl ether	mg/l	0.0500	0.0544	109	69 - 136	7412
Methyl-t-butyl ether	mg/l	0.0500	0.0564	113	69 - 136	1545
Methyl-t-butyl ether	mg/l	0.0500	0.0564	113	69 - 136	7419
Diisopropyl ether	mg/l	0.0500	0.0526	105	65 - 140	7412
VOA Surr 1,2-DCA-d4	% Rec			103	70 - 130	7412
VOA Surr 1,2-DCA-d4	% Rec			104	70 - 130	1545
VOA Surr 1,2-DCA-d4	% Rec			104	70 - 130	7419
VOA Surr Toluene-d8	% Rec			103	78 - 121	7412
VOA Surr Toluene-d8	% Rec			105	78 - 121	1545
VOA Surr Toluene-d8	% Rec			105	78 - 121	7419
VOA Surr, 4-BFB	% Rec			103	78 - 126	7412
VOA Surr, 4-BFB	% Rec			106	78 - 126	1545
VOA Surr, 4-BFB	% Rec			106	78 - 126	7419
VOA Surr, DBFM	% Rec			104	79 - 122	7412
VOA Surr, DBFM	% Rec			111	79 - 122	1545
VOA Surr, DBFM	% Rec			111	79 - 122	7419



PROJECT QUALITY CONTROL DATA Project Number: ERI 3236 13

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Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
UST PARAMETERS		-			
TPH (Gasoline Range)	< 0.0500	mg/l	6012	7/16/05	14:20
TPH (Gasoline Range)	< 0.0500	mg/l	6012	7/16/05	14:51
TPH (Gasoline Range)	< 0.0500	mg/l	6013	7/16/05	19:46
TPH (Gasoline Range)	< 0.0500	mg/l	6013	7/16/05	20:01
TPH (Gasoline Range)	< 0.0500	mg/l	8646	7/19/05	12:07
TPH (Gasoline Range)	< 0.0500	mg/l	8646	7/19/05	12:22
	Blank Data				
Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
UST PARAMETERS					
BTEX/GRO Surr., a,a,a-TFT	118.	% Recovery	6012	7/16/05	14:20
BTEX/GRO Surr., a,a,a-TFT	100.	% Recovery	6012	7/16/05	14:51
BTEX/GRO Surr., a,a,a-TFT	92.	% Recovery	6013	7/16/05	19:46
BTEX/GRO Surr., a,a,a-TFT	117.	% Recovery	6013	7/16/05	20:01
BTEX/GRO Surr., a,a,a-TFT	88.	% Recovery	8646	7/19/05	12:07
BTEX/GRO Surr., a,a,a-TFT	120.	% Recovery	8646	7/19/05	12:22
	Blank Data				
Analyte	Blank Value	Units	O.C. Batch	Date Analyzed	Time Analyzed
			2.0. 2200	_	
VOA PARAMETERS					
Ethyl-t-butylether	< 0.00027	mg/l	7412	7/16/05	18:52
tert-amyl methyl ether	< 0.00030	mg/L	7412	7/16/05	18:52
Tertiary butyl alcohol	< 0.00428	mg/l	7412	7/16/05	18:52
Tertiary butyl alcohol	< 0.00428	mg/l	7419	7/17/05	9:39
Benzene	< 0.00025	mg/l	7412	7/16/05	18:52
Ethylbenzene	< 0.00019	mg/l	7412	7/16/05	18:52
Toluene	< 0.00017	mg/l	7412	7/16/05	18:52
Xylenes (Total)	< 0.00033	mg/l	7412	7/16/05	18:52
Xylenes (Total)	< 0.00033	mg/l	7419	7/17/05	9:39

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PROJECT QUALITY CONTROL DATA Project Number: ERI 3236 13

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Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Methyl-t-butyl ether	< 0.00023	mg/l	7412	7/16/05	18:52
Methyl-t-butyl ether	< 0.00023	mg/l	1545	7/17/05	9:39
Methyl-t-butyl ether	< 0.00023	mg/l	7419	7/17/05	9:39
Diisopropyl ether	< 0.00018	mg/l	7412	7/16/05	18:52
VOA Surr 1,2-DCA-d4	102.	% Rec	7412	7/16/05	18:52
VOA Surr 1,2-DCA-d4	105.	% Rec	1545	7/17/05	9:39
VOA Surr 1,2-DCA-d4	105.	% Rec	7419	7/17/05	9:39
VOA Surr Toluene-d8	100.	% Rec	7412	7/16/05	18:52
VOA Surr Toluene-d8	106.	% Rec	1545	7/17/05	9:39
VOA Surr Toluene-d8	106.	% Rec	7419	7/17/05	9:39
VOA Surr, 4-BFB	111.	% Rec	7412	7/16/05	18:52
VOA Surr, 4-BFB	109.	% Rec	1545	7/17/05	9:39
VOA Surr, 4-BFB	109.	% Rec	7419	7/17/05	9:39
VOA Surr, DBFM	104.	% Rec	7412	7/16/05	18:52
VOA Surr, DBFM	108.	% Rec	1545	7/17/05	9:39
VOA Surr, DBFM	108.	% Rec	7419	7/17/05	9:39

^{# =} Value outside Laboratory historical or method prescribed QC limits.



External Nonconformance / Customer Inquiry

Initiated by: **Client Name:** Iklingensmith

ENVIRONMENTAL

Jamie Montefu

8/12/2005

Client Contact: Client Account:

10229

Date Created:

Process: Change Sample ID

Sample Range:

949-457-8944

101697-701

SDG:

Phone:

422938

Analyst:

224

Supervisor:

Mark Hollingsworth

Corrected By:

Leah Klingensmith

V

8/12/2005

Closed:

NC Closed

Date Closed

Iklingensmith

Comments:

Action:

Comment added by: Iklingensmith on 8/12/2005 3:38:06 PM

Revised report sent 8-12-05.

Report was amended and resubmitted

Comment added by: Iklingensmith on 8/12/2005 3:37:47 PM

Process Closed without Comment

Add an "0" to the sample ID's for 101697-701. ERI(10229) From: Jamie Montefu [mailto:jmontefu@ERI-US.com]

Sent: Tuesday, August 09, 2005 11:13 AM

To: Leah Klingensmith

Cc: Patrick J. Toelkes; Gary Decarlo; Birgit Haissig; Jorge H. Gonzalez; Patricia Garcia; Meriem

Yacoby; Rosemary Shearer

Subject: ERI 3236 (ExxonMobil 18LBF, lab project 422938, dated 7/22/05)

RE: ERI 3236 (ExxonMobil 18LBF, lab project 422938, dated 7/22/05)

Hi Leah,

ERI made an error in naming all of the samples associated with this report. There should be zeros in the last portion of each sample's name. I have faxed the corrected COC to your

attention.

W-16-MW1 should be W-16-MW01

W-16-MW2 should be W-16-MW02

W-16-MW3 should be W-16-MW03

W-15-MW4 should be W-15-MW04

Revised 4/18/03



COOLER RECEIPT FORM

BC#



Client Name: ERZ
Cooler Received/Opened On: 7/5/05 Accessioned By: Paul R. Buckingham II
My /
Log-in Personnel Signature
1. Temperature of Cooler when triaged: Degrees Celsius
2. Were custody seals on outside of cooler?
a. If yes, how many and where:
3. Were custody seals on containers?
4. Were the seals intact, signed, and dated correctly?
5. Were custody papers inside cooler?
6. Were custody papers properly filled out (ink, signed, etc)?
7. Did you sign the custody papers in the appropriate place?
8. What kind of packing material used? Bubblewap Peanuts Vermiculite Foam Insert
Ziplock baggies Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)?
11. Were all container labels complete (#, date, signed, pres., etc)?YESNONA
12. Did all container labels and tags agree with custody papers?
13. Were correct containers used for the analysis requested?YESNONA
14. a. Were VOA vials received?
b. Was there any observable head space present in any VOA vial?
15. Was sufficient amount of sample sent in each container?
16. Were correct preservatives used?YESNONA
If not, record standard ID of preservative used here
17. Was residual chlorine present?
18. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below:
4479
Fed-Ex UPS Velocity DHL Route Off-street Misc.
19. If a Non-Conformance exists, see attached or comments below:



Nashville Division 2960 Foster Creighton Nashville, TN 37204

Phone: 615-726-0177 Toll Free: 800-765-0980 Fax: 615-726-3404

E%onMobil

Consultant Name	Enviro	nmental	Resol	utions	s, Inc.										_		T.	A Acco	unt #	:					10	022	9				
Address	20372	North Se	ea Cirl	cle																:				Je			rigg				
City/State/Zip:	Lake F	orest, C	4 926	30												_				:							LKE				
ExxonMobil Territory Mgr:	Jene	é Brigg	JS							·										:							3166				
Consultant Project Mgr:	PAT 1	OELKI	ES		•											_		Facility											IL 1	81 F	 }F
Consultant Telephone Number:	949-4	57-895	0			Fa	x No	o.: 9	49-	457	7-8	956						Site Add													· · · · · · · · · · · · · · · · · · ·
Sampler Name: (Print)	Ja	rze	6	MÉ	zale						-					_		ty, State									C/				
Sampler Signature:		10		1	2	2		El C		4				_	Regu	— alato		District										_			
								P	rese	rvat	ive		T		Matr		_	<u> </u>					e For:			_		$\overline{}$			
422938	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Methanol			Label)	H2SO4 Glass(Yellow Label)	HNO3 (Red Label) None (Black Label)	Groundwater		Drinking Water		Other (specify):	8015M DIESEL- CAL LUFT	TPH/GAS-CAL LUFT	FULL SCAN 8260B +OXYGENATES / GC/MS	1		*8260B/BTEX +OXYGENATES / GC/MS	TEXMTBE BY 8021	8010	REDOX POTENTIAL	NITRATE/SULFATE	METHANE(8015)	RUSH TAT (Pre-Schedule)	Fax Results (yes or no)	Due Date of Report
N-16-MN0178	7/13/1	0834	5	Х			+	V	1	Н	十	\top	Х	ГТ	+			80		<u> </u>	2	ш			~	4	4	릑		1	
N-16-MW02		0846	1	1		\dashv	7	$\frac{1}{\lambda}$	/	Н	\dashv	+	Ŷ		+	+-	Н		X		-		X	\dashv	\dashv	十	-	\dashv	X		(0169)
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omments/Special instructions: ONSULTANT ID # ERIL LOBAL ID # T0603702234	*OXYO	SENAT ETBE,	ES V TAM	VHEI E, TI	N RE BA.	QUE	ST	ED	AB	ΟV			SE	E-M	AIL	ALL	. ED	, MTBE F FILES RI-US.C	то		Ten San	pera	mmen ature U Contair ree of I	pon i ners	intad	ct?	. (ー (へ? Y	1	N N	
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<u>CLIENT NA</u>	ME: EXXON	MOBIL 18LE	<u> </u>	ERI JOB	# 3236 13		0.163 FO	R A 2" W	ELL		
SITE LOCA	<u>LVD</u>	ANALYS	SIS: TPHg/8	260B	0.652 FOR A 4" WELL 1.167 FOR A 6" WELL						
FIELD CRE	W:JG JG	DATE: 7/13/	0 <u>5</u>				1.167 FO	R A 6" W	ELL		
		DEPTH TO		CASE	CASE	PRG					
WELL#	TIME	WATER	WELL	DIA	VOL(gal)	VOL	COND.	TEMP	Hq		
MW01	7:30 AM	16.46	31.91	4	10.09	30					
	8:08 AM					1	1.75	77.2	6.97		
-	8:13 AM					10	1.77	72.7	6.85		
	8:18 AM				i i	20	1.76	70.8	6.80		
	8:24 AM					30	1.78	70.8	6.81		
sw	8:34 AM	16.52									
		ДЕРТН ТО	ДЕРТН ТО	CASE	CASE	PRG	<u> </u>	·			
WELL#	TIME	WATER	WELL	DIA	VOL	VOL	COND.	TEMP	pН		
MW02	7:40 AM	16.45	39.23	4	14.87	42					
					. [1	1.81	72.8	6.93		
	8:10 AM		<u> </u>								
	8:10 AM 8:19 AM					14	1.78	70.9	6.82		
						14 28	1.78 1.79	70.9 70.8			
	8:19 AM 8:28 AM 8:37 AM	10.10							6.82 6.85 6.82		
SW COMMENT:	8:19 AM 8:28 AM	16.49 Idy				28	1.79	70.8	6.85		
	8:19 AM 8:28 AM 8:37 AM 8:46 AM		рертн то	CASE	CASE	28	1.79	70.8	6.85		
	8:19 AM 8:28 AM 8:37 AM 8:46 AM	ıdy		CASE DIA	1 1	28 42 PRG	1.79 1.77	70.8 71.1	6.85 6.82		
COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM S Water clou	dy	DEPTH TO WELL 37.98		CASE VOL 14.3345	28 42	1.79	70.8	6.85		
COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM S Water clou	DEPTH TO WATER	WELL	DIA	VOL	28 42 PRG VOL	1.79 1.77	70.8 71.1	6.85 6.82		
COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM Water cloud	DEPTH TO WATER	WELL	DIA	VOL	28 42 PRG VOL 42	1.79 1.77	70.8 71.1 TEMP	6.85 6.82 pH		
COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM Water cloud TIME 7:50 AM 9:00 AM	DEPTH TO WATER	WELL	DIA	VOL	28 42 PRG VOL 42	1.79 1.77 COND.	70.8 71.1 TEMP	6.85 6.82 pH		
COMMENTS WELL#	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM	DEPTH TO WATER	WELL	DIA	VOL	28 42 PRG VOL 42 1	1.79 1.77 COND.	70.8 71.1 TEMP 79.5 73.3	pH 6.68 6.85		
WELL#	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM	DEPTH TO WATER	WELL	DIA	VOL	28 42 PRG VOL 42 1 14 28	1.79 1.77 COND. 1.96 1.91 1.97	70.8 71.1 TEMP 79.5 73.3 71.6	6.85 6.82 pH 6.68 6.67		
WELL # MW03	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM 9:29 AM	DEPTH TO WATER 16.02	WELL	DIA	VOL	28 42 PRG VOL 42 1 14 28	1.79 1.77 COND. 1.96 1.91 1.97	70.8 71.1 TEMP 79.5 73.3 71.6	pH 6.68 6.85		
WELL # MW03	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM 9:29 AM 9:46 AM	DEPTH TO WATER 16.02 17.51 ady	WELL	DIA	VOL	28 42 PRG VOL 42 1 14 28	1.79 1.77 COND. 1.96 1.91 1.97	70.8 71.1 TEMP 79.5 73.3 71.6	pH 6.68 6.85		
WELL # WW03 SW COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM 9:19 AM 9:46 AM 8 Water cloud	DEPTH TO WATER 16.02 17.51	WELL 37.98	DIA 4	VOL 14.3345	28 42 PRG VOL 42 1 14 28 42	1.79 1.77 COND. 1.96 1.91 1.97	70.8 71.1 TEMP 79.5 73.3 71.6	pH 6.68 6.85		
WELL # WW03 SW COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM 9:29 AM 9:46 AM 8 Water cloud TIME 8:00 AM	DEPTH TO WATER 16.02 17.51 ady	WELL 37.98	DIA 4	VOL 14.3345	28 42 PRG VOL 42 1 14 28 42	1.79 1.77 COND. 1.96 1.91 1.97 1.95	70.8 71.1 TEMP 79.5 73.3 71.6 71.3	pH 6.68 6.83 pH		
WELL # MW03 SW COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM 9:46 AM 8 Water cloud TIME 8:00 AM 9:03 AM	DEPTH TO WATER 16.02 17.51 1dy DEPTH TO WATER	WELL 37.98 DEPTH TO WELL	DIA 4 CASE DIA	VOL 14.3345	28 42 PRG VOL 42 1 14 28 42 PRG VOL	1.79 1.77 COND. 1.96 1.91 1.97 1.95	70.8 71.1 TEMP 79.5 73.3 71.6 71.3	pH 6.68 6.83 pH 6.68 6.83		
WELL # WW03 SW COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM 9:46 AM 8 Water cloud TIME 8:00 AM 9:03 AM 9:03 AM	DEPTH TO WATER 16.02 17.51 1dy DEPTH TO WATER	WELL 37.98 DEPTH TO WELL	DIA 4 CASE DIA	VOL 14.3345	PRG VOL 42 1 14 28 42 PRG VOL 42	1.79 1.77 COND. 1.96 1.91 1.97 1.95 COND.	70.8 71.1 TEMP 79.5 73.3 71.6 71.3	pH 6.68 6.83 pH 6.68 6.83		
WELL # WW03 SW COMMENT:	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM 9:46 AM 8 Water cloud TIME 8:00 AM 9:03 AM	DEPTH TO WATER 16.02 17.51 1dy DEPTH TO WATER	WELL 37.98 DEPTH TO WELL	DIA 4 CASE DIA	VOL 14.3345	28 42 PRG VOL 42 1 14 28 42 PRG VOL 42 1	1.79 1.77 COND. 1.96 1.91 1.97 1.95	70.8 71.1 TEMP 79.5 73.3 71.6 71.3	pH 6.68 6.83 pH 6.65 6.75		
WELL# WW03 SW COMMENT	8:19 AM 8:28 AM 8:37 AM 8:46 AM 8 Water cloud TIME 7:50 AM 9:00 AM 9:09 AM 9:19 AM 9:46 AM 8 Water cloud TIME 8:00 AM 9:03 AM 9:03 AM	DEPTH TO WATER 16.02 17.51 1dy DEPTH TO WATER	WELL 37.98 DEPTH TO WELL	DIA 4 CASE DIA	VOL 14.3345	PRG VOL 42 1 14 28 42 PRG VOL 42 1 14	1.79 1.77 COND. 1.96 1.91 1.97 1.95 COND.	70.8 71.1 TEMP 79.5 73.3 71.6 71.3	pH 6.68 6.83		

WELL SAMPLING AND SURVEYING

- 1) Open well heads. This may require a socket or a special Allen wrench.
- 2) If the wells are not surveyed by a licensed land surveyor, then survey the wells if this hasn't been done before as follows:
 - Select a permanent benchmark (e.g. curb at corner of site, property line). Record on "SURVEYGW" form.

b) Measure and record rectangular coordinates from benchmark to each well.

c) Set up tripod and transit where it can see all wells and the benchmark = Station "A". If you can't see all wells, two transit locations must be used. At least one well surveyed from Station "A" must be resurveyed from Station "B". Preferably, two or more wells are resurveyed.

d) Carefully level the tripod using the bubble indicator.

- e) Place stadia rod on benchmark and record height from crosshair to reference, (D_o).
- f) Place stadia rod on each well (at the notch) and record ht. from well to crosshair, (D_w).

g) Calculate casing elevation as shown on data sheet SURVEYGW.

To check the accuracy in leveling the transit, set the transit in second spot and repeat steps 2c through 2g. Recalculation of casing elevations should agree within 0.01 ft. or a third placement of the tripod will be required.

- 3) Set up a decon station. This consists of four (4) buckets. Fill the first with deionized water and one (1) teaspoon (approximately one cap full) of Liquinox soap. Fill the next three (3) buckets with deionized water. To decon a probe or water level indicator, place the element and the tape in the buckets in series, finishing with a good rise. To decon a pump, place the pump, hose and wire leads into the buckets in series, and circulate water through the pump in each bucket. Move the equipment from the dirtiest to cleanest bucket, rinsing thoroughly in each bucket.
- Decon the interface probe or water level indicator before inserting into each well. Review the historical groundwater concentrations and sample from cleanest well to hottest well, deconing between each well. Lower probe/indicator until it beeps raise and lower and mark the level on the tape with your thumb. Estimate level to the nearest 0.01 ft. Note the depth to free product if present as indicated by the interface probe and the depth to water on your field notes and log. Note any odor when the probe is withdrawn from the well. Look for the notch or ink mark on the top of the well and measure all levels from that. Notch should be on the highest side of the well pipe. If no side is high, notch should be on the north side. Measure from the casing adjacent to the notch not from the bottom of the notch. If there is no notch make one. For sites that have free product, or historically have had free product, use a bailer to remove a sample of the top of the water column and measure the product in the bailer or look for a sheen. Take a picture of any bailers with product after labeling the bailer with the well number.
- 5) If there is free product, do not purge or sample. The presence of liquid phase hydrocarbons means the concentration in the water will be high anyway and the pump will be difficult to get clean enough to avoid contaminating other wells.
- 6) <u>Developing</u>: If the well has not been developed (it is new), surge the well by moving bailer up and down vigorously in the well for about 5 minutes. This will wash silt from the sand pack into the well where it can be removed.
- Pull out as much silt as possible by running the bailer all the way to the bottom and withdrawing. Continue bailing until water is fairly clear or until local regulatory specifications are met. Removal of silt with the bailer will extend the pump life. Contact the Project Manager if water does not clear up by 10 casing volumes.

- 8) Decon pump by washing in TSP/water the rinsing with tap water and rinsing again with deionized water. Then pump clean water through the pump to push out any dirty water.
- 9) Purging: Place pump in well about 2 to 5 feet off bottom. Withdraw at least 3 casing volumes from the well, or until temperature, pH and conductivity stabilize (see local regulations). Be careful not to let the pump run dry. If an electric purging pump is used, such as a Grundfos pump, check the water level in the well with the water level indicator and slow pump down when water level is within 2 ft of the pump head. While purging, collect a water sample as often as possible and check for pH, conductivity, and temperature. Stable pH and conductivity would indicate the well has been filled with representative groundwater and purging is complete. If well recharges slowly, remove 1.5 casing volumes. Estimate flow rates by recording the time it takes to fill a 5-gallon bucket (1/2 of a 55-gallon barrel, etc.)
- 10) Decon pump thoroughly between each well by repeating step 7.
- 11) Label bottles with a "Sharpie Pen" when they are dry. Label as W-xx-MWy, where xx is water depth below surface in feet and y is well number (refer to SOP-1).
- After the well has been developed, sample the water using a disposable bailer and surgical gloves to prevent oil from your hands from contaminating the sample. Be sure to leave no headspace or bubbles in any water sample to be tested for volatiles. Wells should be sampled within (24) hours of purging and the well should have recovered to within 80% of its volume before purging. (Slow recharge wells need to be addressed with the Project Manager and may have to be purged slowly). Gasoline contaminated water requires at least three (3) 40 ml VOA's from each well. Preserve samples by acidifying to pH <2 (usually with two drops of HCl). Water suspected of contamination with oil or diesel requires 2 1-liter samples in amber bottles. Samples contaminated with oil will require 10 drops of H₂SO₄ for preservation. Samples for organic lead require two (2) 1-liter amber bottles.
- Place like vials in a baggie and label the baggie. Put vials and baggie in an ice chest filled with ice and document samples and analyses required on a chain of custody. Take samples to the laboratory the same day samples are collected if possible, at least within 24 hours.
- 14) Clean wellhead gaskets (seals), put locking caps on the wells and replace the covers. Cover and label the drums (if any) of purge and decon water.

<u>Analysis</u> <u>Bottles</u>	<u>Preservative</u>	
8015 mod gasoline/8020(602) 8015 mod diesel/8020(602) 418.1 (TRPH) Organic Lead HOC - 8010 (601)	min. of 3 x 40 ml VOA 2 1-liter & 3 x 40 ml VOA 2 1-liter amber 2 1-liter amber min. of 3 x 40 ml VOA	2 drops HCl to pH <2 2 drops HCl to pH <2 (applied to VOA's) 10 drops H₂SO₄ to pH <2 no preservative suggested no preservative suggested
Items Needed: Water Level Indicator Disposable Bailers Generator Grundfos Pump and Reel Grundfos Pump Control Box Hydac Cond/Temp/pH Meter Liter Bottles VOAs	Distilled Water 4 Buckets Bottle Brush TSP Detergent Stainless Steel Cable or Poly Cooler with Ice Socket set and Allen Wrench Plastic sheeting	

SOP-6 Quarterly Well Monitoring Rev 6/05

QUARTERLY WELL MONITORING

- Give the site manager advance notification of field activities. Arrange for a sufficient number of drums. Obtain a site plan with the location and ID's of the wells to be monitored and a copy of the table from the last quarterly report with the previous groundwater data.
- 2) Open well heads. This may require a socket or a special allen wrench.
- 3) Set up decon station per SOP-5. Measure groundwater depths with water level indicator as per SOP-5 before any other action is taken. If the depth to the bottom of the monitoring well is unknown, reel out the water level indicator until you feel the probe contact the bottom. You may have to raise and lower the probe several times to "feel" contact with the bottom. The probe is not very heavy, and the bottom of the well may have a cushioning layer of silt. Record the depth of the well once you feel confident the probe is at the bottom. Note odors from well.
- Calculate the linear footage of water in each well, by subtracting the depth to water from the total well depth. To obtain the casing volume in gallons, multiply the linear footage by a constant for the given well casing diameter. Typically, three casing volumes are purged from each well prior to sampling. Always Round up if 3.4 gallons, then purge 4 gallons if 12.1 gallons, then purge 13 gallons.

Casing diameter	Gallons per linear foot
2"	0.17
4"	0.66
6"	1.50
.8"	2.60

- After measuring all water levels, begin purging the wells in order of the cleanest to the most contaminated based on last quarter's data. Well purging procedures are outlined in SOP-5. While wells containing free floating product may not be sampled, the project manager may want the free product removed manually by bailer. Check with the project manager before bailing LPH. You may find that for shallow wells, it may be quicker to bail manually rather than set up the pump. Place purge and decon water in a 55-gallon drum or treat on site. Do not mix purge water from different wells in one drum. Record all purge data on Groundwater Sampling Field Logs. Record "LPH" and the thickness in feet and inches (to nearest 1/16 of an inch) in the comments section if a measurable level of LPH present. If non-measurable amount present then record "Sheen" in the comments section.
- When the well has recovered at least 80% of its' original water level, collect samples using a clean, new disposable bailer. Use a new disposable bailer for each well. Make sure the rope or line is tied securely on the bailer, you don't want to go fishing. Sample in order of the cleanest to the most contaminated. If required, collect field (equipment) blanks.
- 7) Trip blanks are a QA/QC procedure that must be collected at every site. Obtain a trip blank from the laboratory. They will make them up for you. The trip blank to taken unopened to the site and is kept with the other samples in the cooler unopened during the day's sampling. Label the bottle as an arbitrary monitoring well. For example: if there are 5 monitoring wells to be sampled at the site, the trip blank should be labeled as if it were a sample from MW6. The trip blank is never opened and it is used to determine if any contaminants are introduced by the laboratory or during transportation of the samples.
- 8) Field (equipment) blanks are a QA/QC procedure to be collected at the project manager's discretion (or always for LACDPW sites). To collect a field blank decon a bailer thoroughly; pour distilled water into the bailer; pour the distilled water from the bailer into appropriate sample bottle(s) for the analysis

to be performed, allow for no headspace; label the bottle as an arbitrary monitoring well. For example: if there are 5 monitoring wells to be sampled at the site plus a trip blank, and a field blank is to collected, the field blank should be labeled as if it were a sample from MW7 (the trip blank is MW6). If a disposable bailer is used for sampling, use a new disposable bailer to collect the field blank.

- 9) Label sample containers when they are dry (refer to SOP-1). Place vials from each well in a separate plastic zip lock bag. Put bag in an ice chest and document samples and analyses required on a chain of custody (see attached examples).
- Replace the locking caps, and the covers. Cover and label the drums of waste water. Place the drums on site in a location selected by the site manager. Usually, this will be near a dumpster or in the back, away from public view. Labels should face outward.
- 11) Decon all equipment per SOP-5 before leaving the site.

In general, groundwater sampling will be performed in accordance with LUFT guidelines. Several local agencies require that groundwater sampling occur under slightly different guidelines. Check with the project manager to find out which sites require special groundwater sampling procedures. Typically, the following apply:

Orange County Health Care Agency Requirements

No special requirements. Water sampling will be performed as per the State Water Resources Board's LUFT manual.

LARWQCB Groundwater Requirements

- Purge a minimum of three well volumes if recovery is fast, or one borehole volume if recovery is slow (water does not recover to 80% of original level within two hours).
- The last three readings must be within 10% for conductivity, temperature, and pH to show stabilization. This means that all three consecutive readings must be within these limits the first with the middle, and the first with the last, and the middle with the last. For instance, pH readings of 6.92, 6.95, and 7.00 would be sufficient.
- Even though there are no guidelines for turbidity, the measurements should be less than 10 NTU, or meet the baseline level established during development, upon completion of purging. Check with project manager if you use the baseline turbidity level.
- Prior to sampling document recovery time by measuring the water level in each well to prove that at least 80% recovery has occurred.
- A trip blank must be collected.
- o In the comments column of the chain of custody, write "Prepare laboratory report in WIP format."

San Diego Department of Health Services Groundwater Sampling Requirements

- SDDHS does not encourage purging wells until dry.
- Purge one borehole volume of water if recovery is fast, collecting pH/temperature/conductivity measurements while purging, then remove an additional one-half borehole volume of water. If the first and second measurements vary by less than 10%, purging is considered adequate. If not, keep purging water in one-half borehole volume increments until the measurements vary by less than 10%.

or three borehole volumes have been removed. Obtain three consecutive pH/temperature/conductivity measurements that are within 10% of each other.

- o If recovery is slow (water does not recover to 80% of original level within two hours) purge only one borehole volume of water.
- Prior to sampling document recovery time by measuring the water level in each well to prove that at least 80% recovery has occurred.

Ventura County Environmental Health Division Groundwater Sampling Requirements

- A trip blank and a duplicate sample must be analyzed for each site.
- Custody seals must be place over the cap of each sample.

Under certain conditions the calculated purge volumes will need to be calculated in borehole volumes instead of well casings volumes. Use the following to calculate borehole volume in gallons.

Well I.D.

Bore Volume

2"

0.90 gal/ft. in water

4"/or nested wells

1.70 gal/ft. in water

The completed groundwater sampling log must contain:

- pH/temp./conductivity and turbidity measurements indicating stabilization

- time and volume of water removed at each pH/temp./conductivity measurements

- total volume of water purged

- name of personnel performing sampling

- date and project number

- problems or unusual conditions arising during purging or sampling, such as the well going dry during

purging, water in the well vault, missing well caps or locks, odors, appearance of purge water, etc.

- 80% recovery measurement and time of measurement after purging and before sampling

All chains of custody for the client's groundwater sites must contain the consultant work release number, station identification number and client contact among the other items to be filled out. Check the groundwater sampling field log and chain of custody for completeness, accuracy and neatness. If you have any questions, call!!!

Make sure that the date and time of relinquished and accepted at the lab are the same on the chain of custody. Also, make sure the lab fills in the sample condition information and signs for the samples on the chain of custody

Santa Barbara County Environmental Health Services Groundwater Monitoring Guidelines

- Groundwater Monitoring
 - A. Groundwater levels are to be monitored/measured in all wells in a short time span.

B. Measure the groundwater levels (correct for "free product" thickness).

- C. Use a clear bailer to check for the presence of "floating product," sheen, and odors.
- Replace well cover until ready to purge well.
- II. Purging
 - A. Amount: generally 3 to 5 (no more than 10) well volumes; via bailer, pumps, or vacuum

- B. Parameters (pH, temperature, conductivity) shall stabilize while purging.
 - 1. Measure the parameters of a small volume (i.e., a 500 ml) of the water as it is removed from the well. Measure the parameters initially and at regular volume intervals (e.g., after every well casing volume). More frequent testing may be needed if the well is known to go dry.
 - Wells must be allowed to recharge prior to sampling (see section G of the Santa Barbara County LUFT Manual).
- C. Slow recharging wells are wells that are purged dry before removing 3 well volumes of water, and take more than **two (2)** hours to recharge.
 - 1. Note this on the field records and estimate the number of well volumes removed.
 - 2. Allow the well to recharge a minimum of two (2) feet and then sample.
 - 3. Sample wells no later than 24 hours after purging.
 - 4. Note the water level and percentage of recharge in the report.

III. Sample Collection

- A. Use either a decontaminated Teflon, stainless steel, or disposable bailer.
- B. Sample containers are to be supplied and certified by a laboratory:
 - 1. VOAs of 40 ml volume (at least 3 per well check with lab and the PM for specific requirements); fill VOAs first to reduce volatization.
 - 2. 4 oz sample containers for Pb (metallic lead) analysis (if needed).
- C. Fill containers by pouring along the inside of the vial to reduce volatilization.
- Form a positive meniscus with the water, to avoid trapping air, before placing the cap on the VOA. Samples with headspace are not acceptable for analysis.
 - 1. Check for bubbles by inverting and tapping gently to dislodge bubbles.
 - 2. If bubbles are found, uncap and repeat steps C and D.
- E. Label all samples and store immediately in an ice chest at 4 degrees Celsius filled with ice.
- F. Be careful to properly decontaminate equipment between each and every well.

NON-HAZARDOUS WASTE MANIFEST 3. Generator's Name and Mailing Address Western Area Retail Remediation Administrator Exxon Mobil Corporation Global Remediation - Retail Projects 3700 W 190th St., TPT #2-15 Jeneé Briggs 5. Transporter 1 Company Name Environmental Resolutions Inc. 7. Transporter 2 Company Name Belshire Environmental Nieto and Sons 9. Designated Facility Name and Site Address 10. US EPA ID Number Crostby and Overton 1610 West 17th. Street Long Beach, CA 90313 11. Waste Shipping Name and Description a. Non-Hazardous Waste Liquid Not Regulated by D.O.T. Danies Document No. 1 Generator's Name and Description 1 Containers	14. Unit Wt/Vol
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D. Additional Descriptions for Materials Listed Above E. Handling Codes for Wastes Listed Ab	ove
Purged Groundwater	
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15. Special Handling Instructions and Additional Information	
ERI 3236-13	
ExxonMobil 18LBF	
19248 Victory Blvd, Reseda, CA.	
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16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazarr Printed/Typed Name Signeture Month I	dous Waste.
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	8 05
Printed/Typed Name Signature Menth 6	
Gary De Carlo of ERI on behalf of ExxonMobil	oay Year
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19. Discrepancy Indication Space	
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.	
Printed/Typed Name	
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ORIGINAL - RETURN TO GENERATOR	